

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An alkaline protease, comprising the amino acid sequence of SEQ ID NO: 1 wherein one or more an amino acid residue at residues selected from the group consisting of (a) position 84, (b) position 104, (c) position 256 or (d) position 369 of SEQ ID NO:1 ~~or at a position corresponding thereto has been deleted or selected from~~ specifically mutated to replace the original amino acid with an amino acid as follows:

at position (a): an arginine residue,

at position (b): a proline residue,

at position (c): an alanine, serine, glutamine, valine, leucine, asparagine, glutamic acid or aspartic acid residue, and

at position (d): an ~~aspartic acid~~ asparagine residue,

2. (Currently Amended) An alkaline protease, comprising an amino acid sequence having at least 80% homology to the amino acid sequence represented by SEQ ID NO:1 or having an amino acid sequence showing at least 60% homology therewith, wherein one or more an amino acid residue at residues selected from the group consisting of (a) position 84, (b) position 104, (c) position 256, and or (d) position 369 of SEQ ID NO:1 or at a position corresponding thereto has been ~~deleted or selected from~~ specifically mutated to replace the original amino acid with an amino acid as follows:

at position (a): an arginine residue,

at position (b): a proline residue,

at position (c): an alanine, serine, glutamine, valine, leucine, asparagine, glutamic acid or aspartic acid residue, and

at position (d): an ~~aspartic acid~~ asparagine residue,

wherein said alkaline protease has oxidant resistance, is active at an alkaline pH, and retains at least 80% residual activity when treated at pH 10 for 10 minutes.

3. (Withdrawn) An alkaline protease, wherein an amino acid residue at (e) position 66 or 264, (f) position 57, each of 101 to 106, 136, 193 or 342, (g) position 46 or 205, (h) position 54, 119, 138, 148 or 195, (i) position 247, (j) position 124, (k) position 107 or (l) position 257 of SEQ ID NO:1, or at a position corresponding thereto has been deleted or selected from:

at position (e): a glutamine, aspartic acid, serine, glutamic acid, alanine, threonine, leucine, methionine, cysteine, valine, glycine or isoleucine residue

at position (f): a lysine, serine, glutamine, phenylalanine, valine, arginine, tyrosine, leucine, isoleucine, threonine, methionine, cysteine, tryptophan, aspartic acid, glutamic acid, histidine, proline or alanine residue,

at position (g): a tyrosine, tryptophan, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, lysine, glutamine, methionine or cysteine residue,

at position (h): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, histidine, serine, lysine, glutamine, methionine, glycine, aspartic acid, proline, arginine or cysteine residue,

at position (i): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, glutamine, methionine or cysteine residue,

at position (j): an alanine or lysine residue,

at position (k): a lysine, arginine, alanine or serine residue, and

at position (l): a valine or isoleucine residue.

4. (Withdrawn) An alkaline protease, comprising an amino acid sequence represented by SEQ ID NO:1 or having an amino acid sequence showing at least 60% homology therewith, wherein an amino acid residue at (e) position 66 or 264, (f) position 57, each of 101 to 106, 136, 193 or 342, (g) position 46 or 205, (h) position 54, 119, 138, 148 or 195, (i) position 247, (j) position 124, (k) position 107 or (l) position 257 has been deleted or selected from:

at position (e): a glutamine, aspartic acid, serine, glutamic acid, alanine, threonine, leucine, methionine, cysteine, valine, glycine or isoleucine residue

at position (f): a lysine, serine, glutamine, phenylalanine, valine, arginine, tyrosine, leucine, isoleucine, threonine, methionine, cysteine, tryptophan, aspartic acid, glutamic acid, histidine, proline or alanine residue,

at position (g): a tyrosine, tryptophan, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, lysine, glutamine, methionine or cysteine residue,

at position (h): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, histidine, serine, lysine, glutamine, methionine, glycine, aspartic acid, proline, arginine or cysteine residue,

at position (i): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, glutamine, methionine or cysteine residue,

at position (j): an alanine or lysine residue,

at position (k): a lysine, arginine, alanine or serine residue, and

at position (l): a valine or isoleucine residue.

5. (Withdrawn; Currently Amended) The alkaline protease according to Claim 2, wherein the amino acid sequence having at least 80% homology to the amino acid sequence

represented by SEQ ID NO:1 or amino acid sequence showing at least 60% homology therewith is an amino acid sequence selected from a group consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, and SEQ ID NO: 7.

6. (Withdrawn) A gene encoding the alkaline protease according to Claim 1.
7. (Withdrawn) A recombinant vector comprising the gene according to Claim 6.
8. (Withdrawn) A transformant comprising the recombinant vector according to Claim 7.
9. (Withdrawn) The transformant according to Claim 8, wherein a microorganism is used as a host.
10. (Withdrawn) A detergent composition, comprising the alkaline protease according to Claim 1.
11. (Withdrawn) A gene encoding the alkaline protease according to Claim 2.
12. (Withdrawn) A recombinant vector comprising the gene according to Claim 11.
13. (Withdrawn) A transformant comprising the recombinant vector according to Claim 12.
14. (Withdrawn) The transformant according to Claim 13, wherein a microorganism is used as a host.
15. (Previously Presented) A detergent composition comprising the alkaline protease according to Claim 2.
16. (Withdrawn) A gene encoding the alkaline protease according to Claim 3.
17. (Withdrawn) A recombinant vector comprising the gene according to Claim 16.
18. (Withdrawn) A transformant comprising the recombinant vector according to Claim 17.

19. (Withdrawn) The transformant according to Claim 18, wherein a microorganism is used as a host.

20. (Withdrawn) A detergent composition comprising the alkaline protease according to Claim 3.

21. (Withdrawn) The alkaline protease according to Claim 4, wherein the amino acid sequence represented by SEQ ID NO:1 or amino acid sequence showing at least 60% homology therewith is an amino acid sequence selected from a group consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, and SEQ ID NO: 7.

22. (Withdrawn) A gene encoding the alkaline protease according to Claim 21.

23. (Withdrawn) A recombinant vector comprising the gene according to Claim 22.

24. (Withdrawn) A transformant comprising the recombinant vector according to Claim 23.

25. (Withdrawn) The transformant according to Claim 24, wherein a microorganism is used as a host.

26. (Withdrawn) A detergent composition comprising the alkaline protease according to Claim 21.

27. (Withdrawn) A gene encoding the alkaline protease according to Claim 4.

28. (Withdrawn) A recombinant vector comprising the gene according to Claim 27.

29. (Withdrawn) A transformant comprising the recombinant vector according to Claim 28.

30. (Withdrawn) The transformant according to Claim 29, wherein a microorganism is used as a host.

31. (Withdrawn) A detergent composition comprising the alkaline protease according to Claim 4.

32. (Withdrawn) A gene encoding the alkaline protease according to Claim 5.
33. (Withdrawn) A recombinant vector comprising the gene according to Claim 32.
34. (Withdrawn) A transformant comprising the recombinant vector according to Claim 33.
35. (Withdrawn) The transformant according to Claim 34, wherein a microorganism is used as a host.
36. (Withdrawn) A detergent composition comprising the alkaline protease according to Claim 5.
37. (New) The alkaline protease according to Claim 1, wherein (d) position 369 of SEQ ID NO:1 has been specifically mutated to replace the original amino acid with an asparagine residue.
38. (New) The alkaline protease according to Claim 37, wherein one or more amino acid residues selected from the group consisting of (a) position 84, (b) position 104, and (c) position 256 has been specifically mutated to replace the original amino acid with an amino acid as follows:
  - at position (a): an arginine residue,
  - at position (b): a proline residue,
  - at position (c): an alanine, serine, glutamine, valine, leucine, asparagine, glutamic acid or aspartic acid residue.
39. (New) The alkaline protease according to Claim 2, wherein (d) position 369 of SEQ ID NO:1 or at a position corresponding thereto has been specifically mutated to replace the original amino acid with an asparagine residue.
40. (New) The alkaline protease according to Claim 39, wherein one or more amino acid residues selected from the group consisting of (a) position 84, (b) position 104, and (c)

position 256 or at a position corresponding thereto has been specifically mutated to replace the original amino acid with an amino acid as follows:

at position (a): an arginine residue,

at position (b): a proline residue,

at position (c): an alanine, serine, glutamine, valine, leucine, asparagine, glutamic acid or aspartic acid residue.

SUPPORT FOR THE AMENDMENT

Claims 1, 2, and 5 have been amended.

Claims 37-40 have been added.

The amendment of Claims 1, 2, and 5 is supported by the corresponding claims as originally filed and pages 5-31 as originally filed, including: page 8, lines 1-4, page 9, lines 11-13, page 10, lines 20-23, and Table 2 on page 30. New Claims 37 and 38 are supported by Claim 1 as originally filed. New Claims 39 and 40 are supported by Claim 2 as originally filed. New Claims 37-40 read on the elected species.

No new matter has been entered by the present amendment.